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APR 17 1969

CURRENT SERIAL RECORDS

FEDERAL - STATE - PRIVATE  
**COOPERATIVE SNOW SURVEYS**  
for  
**ALASKA**

U. S. DEPARTMENT of AGRICULTURE , SOIL CONSERVATION SERVICE  
and  
ALASKA SOIL CONSERVATION DISTRICT

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Army Corps of Engineers, Alaska Power Administration, U.S. Geological Survey, Alaska Highway Dept., Alaska Department of Fish and Game, University of Alaska, Greater Anchorage Area Borough and others.

AS OF  
**APR. 1, 1969**

## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on a measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

## PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80521
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Butte, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

## PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



# SNOW SURVEYS *for* ALASKA

*Report Prepared by*  
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UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
P.O. BOX F, PALMER, ALASKA

APRIL 1969

Snow cover is considerably below average over the major portion of Alaska. Snow surveys conducted near April 1 indicate that snow depth and water content was generally far below average for that date. The Alaska Range of mountains, the Copper and Susitna basins and the upper Yukon drainage are the regions that are particularly deficient.

The lower Tanana drainage, and portions of the Chena watershed were two areas which did receive significant snowfall but snowpack is still below normal.

The mountains of Southeast Alaska and the Kenai peninsula were the exception. Heavy snowfall in these areas in late March resulted in above average snow cover for that area.

Soils are dry throughout most of interior Alaska as a result of very light precipitation during the late summer and fall. It is expected that much of the water from the melting snow will be absorbed into the soil and runoff will be less than normal.

## YUKON above RAMPART

Snow cover in the upper Yukon basin was only 60% of average as of April 1. Several snow courses had the least amount of snow depth and water content measured in the period of record. Snow water content of only 2 to 3



inches was general over most of this large area. The exception was a portion of the watershed of the East Fork of the Chandalar river. This area had a near average snow accumulation.

#### TANANA-CHENA Drainage

That portion of the Alaska range draining into the Tanana river has an extremely light snow cover. The Fielding Lake and Mentasta Pass snow courses have by far the lowest snow pack measured in the past eight years.

The Chena watershed received a substantial storm in March but snow cover in the area is still only 65% of the normal cover for April 1.

#### MATANUSKA-SUSITNA-COPPER

In contrast to last years' heavy snow cover on the Susitna drainage, depths and water content this year are very light; only 48% of last year. Snow cover in the Copper river drainage is also light and considerably below normal, especially in the Mentasta and Wrangell Mountains. Portions of the Chugach Mountains draining into the Matanuska river received substantial snowfall during the month.

#### KUSKOKWIM

The two snow courses measured in the Kuskokwim drainage indicate less snow than either of the past two years. Soils in the region are generally dry and runoff is expected to be less than average.

#### KOYUKUK

Snow cover in the Koyukuk drainage is less than half of that measured last year. It is estimated that snow conditions are considerably below average.

#### COASTAL DRAINAGE

Low elevation snow cover in the Coastal drainage near Anchorage is somewhat greater than average. High elevation snow cover, however, is less than average. In general the area has about an 80% normal snow cover.

#### SNETTISHAM DRAINAGE

The higher elevations in the Snettisham drainage near Juneau have a snow accumulation considerably above average. Measured snow depth at the Crater Lake station was 186 inches with a water content of 87 inches. This is higher than any of the previous four years.

# ALASKA SNOW SURVEYS

DRAINAGE BASIN AND SNOW COURSE	MAP NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT		PREVIOUS YEARS OF RECORD
					LAST YEAR	AVERAGE *	
YUKON Drainage:							
Chandalar Lake	3	4/1	18	2.7	6.1	4.4	3
Squaw Lake	4	4/1A	22	3.3E	5.7	4.4	2
Venetie	5	4/1	11	2.1	3.1	3.2	3
Arctic Village	6	4/2	24	3.7	4.1	3.5	5
Koness Lake	7	4/2	19	3.1	3.4	3.2	2
Coleen River	8	4/2A	16	2.6E	3.1	3.0	3
Vundik Lake	9	4/2	10	1.5	3.3	3.3	2
Fort Yukon	10	4/2	13	2.0	3.2	3.8	3
Black River	11	4/2	16	2.7	4.7	4.2	4
Circle City	12	4/3	19	2.9	4.5	4.2	3
Bull Lake	13	4/3A	19	3.2E	5.5	5.6	2
Dempsey Creek	14	4/3A	20	3.4E	--	--	--
Eagle Village	15	4/3	15	2.2	6.5	5.5	3
Boundary	16	4/3	18	2.9E	6.2	6.1	2
Chicken Airstrip	17	4/3	10	1.9	3.8	3.5	3
Log Cabin	18	4/2	45	10.1	9.7	13.5	9
TANANA-CHENA:							
Yak Pasture	17	3/28	24	4.3	5.4	4.0	9
Cleary Summit	18	3/14A	21	4.2E	6.0	4.5	5
		3/28	27	5.5	7.1	6.6	9
Little Chena	19	3/14A	19	3.7E	6.0	5.3	6
		4/3	21	4.0	5.0	5.5	7
Mt. Ryan	20	3/14A	16	2.9E	6.8	5.8	6
		4/3	24	4.4	6.8	7.6	7
Chena Hot Springs	21	3/14A	17	2.7E	5.5	--	1
		4/1	19	3.9	4.2	4.0	5
Big Windy	22	3/14A	14	3.9E	3.6	3.7	6
		4/1	20	5.3	3.8	3.5	5
Munson Ridge	23	3/14A	29	6.1E	12.5	9.9	6
		4/1	31	7.2	12.1	15.0	7
French Creek	24	3/28	27	5.4	7.7	7.7	7
Little Salcha	25	3/28	24	4.8	6.9	6.5	7
Wolf Creek	76	3/14	8	1.9E	6.8	--	1
		--	--	--	6.0	--	1
Upper Chena	75	3/14	21	3.8	9.2	--	1
		4/1	26	5.5	9.3	9.8	2
Colorado Creek	27	4/1	22	4.9	4.3	5.7	3
Caribou Mine	28	3/14A	20	3.6E	4.2	5.6	2
		4/1	24	5.4	4.9	6.3	3
Big Delta	29	3/28	14	2.2	2.9	2.7	9
Tok Junction	30	3/26	16	2.7	4.4	3.6	9
Mentasta Pass	31	3/26	19	2.8	7.3	6.3	7
Fielding Lake	33	3/26	18	3.2	14.2	12.1	8
Fort Greely	78	3/27	16	2.8	3.2	5.2	2
Meadows Road	79	3/27	14	2.4	0	3.0	2
Donnelly Dome	80	3/27	20	4.0	5.1	9.7	2
Granite Creek	81	3/27	16	2.7	3.8	--	1
Bonanza Creek	82	3/28	27	4.8	5.6	--	1
Wien Lake	74	3/31	22	3.9	3.6	--	1

A - Aerial marker reading

E - Estimated

(\*) Average for Period of Record





# ALASKA SNOW SURVEYS

DRAINAGE BASIN AND SNOW COURSE	MAP NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT		PREVIOUS YEARS OF RECORD
					LAST YEAR	AVERAGE *	
COPPER RIVER:							
Mankomen Lake	32	4/1	19	3.0	8.2	7.4	2
Haggard Creek	34	3/26	18	3.0	6.3	5.5	5
Sanford River	37	3/27A	17	3.0E	5.4	5.7	2
St. Anne's Lake	54	3/28A	15	2.7E	6.4	5.5	5
Little Nelchina	40	3/27A	19	3.4E	5.3	--	1
MATANUSKA-SUSITNA:							
Monahan Flat	35	3/27A	20	3.2E	8.2	5.8	5
Clearwater Lake	36	3/27	17	2.7	4.8	4.7	5
Fog Lakes	38	3/27	14	1.7	6.9	3.5	5
Oshetna Lake	39	3/28	16	2.6	3.3	3.6	5
Lake Louise	41	3/28	17	2.7	4.6	4.2	5
Chelatna Lake	44	3/27A	39	8.6E	--	9.9	3
Peters Hills	45	3/27A	45	9.9E	--	--	--
Talkeetna	46	3/27	20	3.5	10.6	9.2	2
Bald Mtn. Lake	47	3/27	18	4.0	12.1	6.5	5
Skwentna	48	3/27	35	8.0	13.6	11.3	2
Alexander Lake	49	3/27	32	6.5	11.4	10.5	5
Willow Airstrip	50	3/28	19	3.9	5.3	5.9	4
Independence Mine	51	4/2	48	9.7	25.6	20.6	2
Sheep Mountain	53	4/1	20	3.2	4.7	4.9	11
KUSKOKWIM Drainage:							
Lake Minchumina	42	3/31	23	4.0	4.5	5.4	2
Farewell Lake	43	3/31	17	3.3	4.1	4.6	2
KOYUKUK Drainage:							
Anaktuvuk Pass	1	4/1	17	3.2	--	--	--
Bettles Field	2	3/31	23	4.5	12.4	10.4	2
Lake Todatonten	77	3/31A	18	3.2E	8.9	--	1
COASTAL Drainage:							
McArthur	52	3/27	78	18.7E	23.8	20.7	5
Worthington Glac.	55	4/1	42	10.9	24.6	20.9	11
Moraine	56	4/3	31	7.6	7.5	9.3	12
Ptarmigan	57	4/3	32	8.2	8.8	11.3	10
Marmot	58	--	--	--	--	--	1
Goat	59	4/3	32	9.0	12.8	9.7	2
Grizzly	60	--	--	--	--	--	--
Arctic Valley #1	61	4/1	15	3.5	T	1.8	4
Arctic Valley #2	62	4/1	22	3.5	T	2.0	5
Arctic Valley #3	63	4/1	25	5.5	5.7	5.2	5
Arctic Valley #4	64	4/1	24	5.3	7.4	5.7	5
Arctic Ski Bowl	65	4/1	30	8.3	14.5	13.0	5
Bird Creek	66	4/1	50	11.0	19.4	15.2	2
Ship Creek	67	4/1	37	8.0	11.4	10.3	2
Indian Pass	68	4/1	57	12.8	23.1	20.6	2

A - Aerial marker reading

E - Estimated

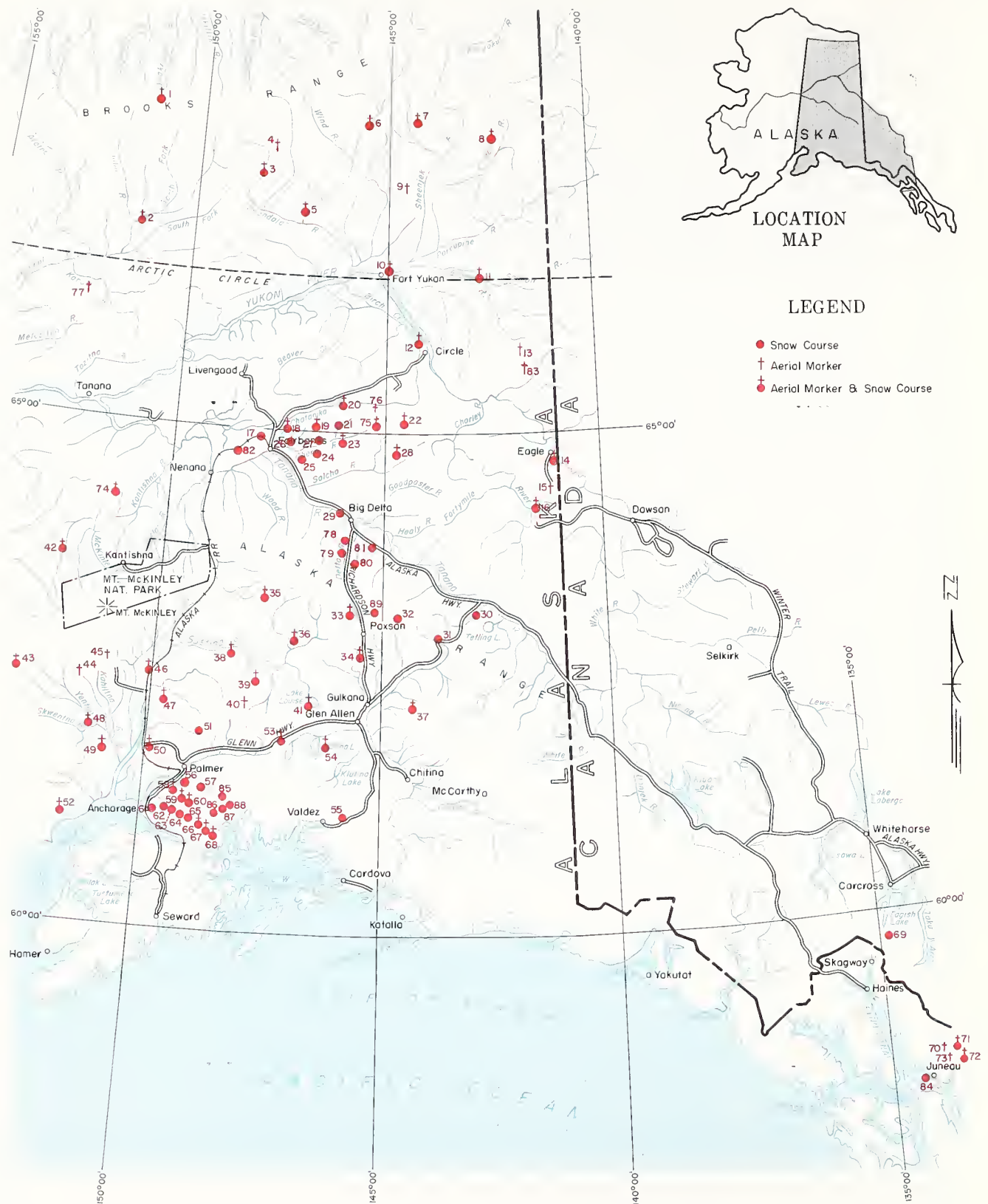
(\*) Average for Period of Record



# ALASKA SNOW SURVEYS

DRAINAGE BASIN AND SNOW COURSE	MAP NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT		PREVIOUS YEARS OF RECORD
					LAST YEAR	AVERAGE *	
SOUTHEAST ALASKA:							
Upper Long Lake	70	4/1	107	43.0	25.2	37.4	4
Long Lake	71	4/1	109	44.8	27.3	40.6	4
Speel River	72	4/1	74	27.8	19.5	32.2	4
Crater Lake	73	4/1	186	87.0	29.4	55.4	4
Douglas Ski Bowl	84	3/29	104	36.8	28.6	--	1

(\*) Average for Period of Record



# INDEX OF ALASKA SNOW COURSES

MAP NO.	COURSE NAME	COURSE NO.	ELEV.	MAP NO.	COURSE NAME	COURSE NO.	ELEV.
1	Anaktuvuk Pass	51TT1A	2100	46	Talkeetna	50NN2	350
2	Bettles Field	51RR1A	640	47	Bald Mt. Lake	49NN1A	2150
3	Chandalar Lake	48SS1A	2040	48	Skwentna	51MM1A	158
4	Squaw Lake	48SS2a	2150	49	Alexander Lake	50MM1A	200
5	Venetie	46SS1A	610	50	Willow Airstrip	59MM2	150
6	Arctic Village	45TT1A	2300	51	Independence Mine	49MM7	3300
7	Koness Lake	44SS1A	1790	52	McArthur	51LL1A	120
8	Coleen River	42SS1A	1100	53	Sheep Mountain	45MM1	2700
9	Vundik Lake	43SS1a	950	54	St. Anne's Lake	46MM1A	1985
10	Fort Yukon	44RR1AM	425	55	Worthington Glacier	45MM2	2400
11	Black River	42RR1A	650	56	Moraine	48MM1	2100
12	Circle City	44QQ3A	600	57	Ptarmigan	48MM2	3000
13	Bull Lake	42QQ1a	810	58	Marmot	48MM8A	2000
14	Eagle Village	41PP1A	900	59	Goat	48MM7A	3200
15	Boundary	41PP3A	3300	60	Grizzly	48MM4A	5000
16	Chicken Airstrip	41PP2A	1650	61	Arctic Valley #1	49MM1	500
17	Yak Pasture	47PP1	540	62	Arctic Valley #2	49MM2	1000
18	Cleary Summit	47QQ1A	2230	63	Arctic Valley #3	49MM3	2030
19	Little Chena	46QQ2AP	2200	64	Arctic Valley #4	49MM4	2330
20	Mt. Ryan	46QQ1AP	2950	65	Arctic Ski Bowl	49MM5	3000
21	Chena Hot Springs	46QQ3	1250	66	Bird Creek	49MM6A	2350
22	Big Windy	44QQ2AP	3850	67	Ship Creek	49MM7AM	1750
23	Munson Ridge	46PP1AP	3100	68	Indian Pass	49MM8A	2350
24	French Creek	46PP2MP	2010	69	Log Cabin (B.C.)	35KK1	2880
25	Little Salcha	46PP3	1500	70	Upper Long Lake	33JJ2a	1000
26	Glenn Creek	47PP2	925	71	Long Lake	33JJ1A	1075
27	Colorado Creek	46PP4	750	72	Speel River	33JJ3A	275
28	Caribou Mine	45PP2A	1115	73	Crater Lake	33JJ4a	1750
29	Big Delta	45PP1	975	74	Wien Lake	55PP1A	1020
30	Tok Junction	43OO1	1650	75	Upper Chena	44QQ3AP	3000
31	Mentasta Pass	43NN1	2430	76	Wolf Creek	44QQ4a	3850
32	Mankomen Lake	44NN1	3050	77	Lake Todatonten	52RR1a	985
33	Fielding Lake	45OO1A	3000	78	Ft. Greely	45001	1420
34	Haggard Creek	45NN1A	2540	79	Meadows Road	45002	1570
35	Monahan Flat	47OO1A	2710	80	Donnelly Dome	45003	2200
36	Clearwater Lake	46NN1A	3100	81	Granite Creek	45004	1235
37	Sanford River	44NN2a	2280	82	Bonanza Creek	48PP1	1150
38	Fog Lakes	48NN1A	2270	83	Dempsey Creek	42QQ2a	950
39	Oshetna Lake	47NN1A	2950	84	Douglas Ski Bowl	34II1	1640
40	Little Nelchina	47NN2a	4160	85	Eagle Glacier	49MM9	4790
41	Lake Louise	46NN2A	2400	86	Wolverine Glacier #1	48LL1	2130
42	Lake Minchumina	52OO1A	730	87	Wolverine Glacier #2	48LL2	3610
43	Farewell Lake	53NN1A	1090	88	Wolverine Glacier #3	48LL3	4430
44	Chelatna Lake	51NN1a	1650	89	Gulkana Glacier	45002	5500
45	Peters Hills	50NN1a	2010				

## Legend

45TT1	Snow Course Only
45TT1M	Snow Course & Soil Moisture
45TT1A	Snow Course & Aerial Marker
45TT1a	Aerial Marker Only
45TT1P	Snow Course & Precipitation Gage



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